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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,673	09/28/2001	Daniel Redoules	PF 103 PCT US	3831

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EXAMINER
KHARE, DEVESH

ART UNIT	PAPER NUMBER
1623	

DATE MAILED: 01/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/937,673	REDOULES ET AL.	
	Examiner	Art Unit	
	Devesh Khare	1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *16-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16-30* is/are rejected.

7)☒ Claim(s) *19* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Minor objections

Claim 19 is objected to because of the following informalities:

Claim 19, line 1, misspell the word "complex".

Appropriate correction is required.

35 U.S.C. 112, second paragraph rejection

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 16 is rejected under the second paragraph of 35 U.S.C. 112, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear whether the phrase "which may contain" is intended to include oxygen or hetero atoms. Also, it is unclear whether the phrase "which may bear" is intended to include one or more carbonyl groups.
2. The term "complementary" in claim 18 is a relative term, which renders the claim indefinite. The term "complementary" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Claim 18 is unclear with regard to the term "complementary" because complementary pharmaceutical and/or cosmetic activity is not defined.
3. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention. It is unclear whether the phrase "in particular flavonoids of natural origin" is intended to include non-natural flavonoids.

4. Claim 23 is rejected under the second paragraph of 35 U.S.C. 112, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 23 fails to further limit the composition claim from which it depends since the recitation of the intended use by applying to the skin fails to result in a structural difference in the composition of matter claimed and is afforded no patentable weight.
5. Claims 24 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App.

1949). In the present instance, claim 24 recites the broad recitation "from 0.001% to 10% by weight", and the claim also recites "preferably 0.01% to 0.1%", which is the narrower statements of the range/limitation.

In the present instance, claim 26 recites the broad recitation "spherules", and the claim also recites "liposomes, nanocapsules or nanospheres", which is the narrower statement of the range/limitation.

6. Regarding claim 26, the phrase "for instance" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

35 U.S.C. 103(a) rejection

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> *(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.*

Claims 16-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bollag et al. (U.S. Patent 4,565,863) in view of von Deessen et al. (U.S. Patent 5,126,500).

The claims 16-30 are directed to glucosyl complex of retinoic acid, which are broadly comprised of two components:

(1) a glucosyl complex of retinoic acid, where glucose is attached to a linear, branched or cyclized hydrocarbon based spacer group of aliphatic or aromatic nature and a retinoic acid molecule is linked to the spacer via a carboxylate function and its pharmaceutical composition for percutaneous application; and
(2) a process for preparing the said complex wherein the a compound of formula II (glucosyl intermediate) is reacted with retinoyl chloride. Additional claim limitations claimed include the identity of the active principle, the identity of specific characteristics of the E variable, specific glucosyl complexes, pharmaceutical & cosmetic compositions, % by weight of glucosyl complex composition formulations, and process for preparing compounds of claim 16.

Bollag et al. teach retinoids complex where a residue of sugar is attached via an ester to a retinoic acid derivative, its composition for topical use and a process for preparing the sugar complex of retinoic acid using the retinoic chloride intermediate(see abstract). On column 1, lines 54-57, the lower alkyl glucoside complexes of retinoic acid derivatives are disclosed. On column 3, lines 49-52, the topical administration of the pharmaceutical compositions of these complexes is taught. On column 4, Example 1, retinoic acid chloride intermediate is reacted with a glucoside to form a reaction product of a glucosyl complex of retinoic acid derivative. It would have been obvious to use the retinoyl chloride to react with formula II (a and b) to prepare the compound of formula II in claims 27-30. While the Bollag et al. retinoids complex and a process for their preparation are closely analogous to the applicant's process, Bollag et al's. glucosyl -

retinoid complex and compositions differ from applicant's glucosyl -retinoid complex and compositions in that the retinoic acid is substituted with methoxy and methyl groups and the retinoic acid derivative is directly linked to the glucosyl group without a spacer group in between.

Applicants claim the glucosyl complex according to claim 21, wherein E represents 1,2-propanyl, daidzin or genistin groups. It would have been obvious to modify the compounds of formula I in col. 1, lines 5-15 of the Bollag et al. patent by substituting the lower alkyl groups with 1,2-propanyl, daidzin or genistin groups as taught by Bollag et al.

Applicants claim the glucosyl-retinoid complex composition for topical use according to claim 24, which contains from 0.001% to 10% by weight of glucosyl complex, see col. 3, lines 59-62 of the Bollag et al. patent wherein about 0.05 to about 5% of glucoside complex of retinoic acid derivatives is used in salves or creams.

von Deessen et al. teach the retinyl glycosides and a method of preparation of retinyl glycosides and intermediates. von Deessen et al. teach a method of preparation of retinyl β-D-glucopyranoside in Example 1 on column 7. It is noted that von Deessen et al. does not provide specific disclosures regarding the use of a carboxylate function in the linkage between a glucosyl group and a retinoic acid.

Therefore, one of ordinary skill in the art would have found the applicants claimed a glucosyl complex of retinoic acid, its pharmaceutical composition and a process for their

preparation to have been obvious at the time the invention was made having the above cited references before him. Since Bollag et al. teach retinoids complex where a residue of sugar is attached via a ester to a retinoic acid derivative, the method of preparation of the complex by using the retinoic acid chloride intermediate and the topical use of its pharmaceutical composition and von Deessen et al., teach the retinyl glycosides and a method of preparation of retinyl β-D-glucopyranoside by the glycosidation reaction of a glucopyranosyl unit and retnoic acid, one skilled in the art would have a reasonable expectation for success in combining both references to accomplish the glucosyl complex of retinoic acid, its pharmaceutical composition and a process for their preparation. The motivation for doing so is provided by Bollag et al., which suggests the use of retinoids where a sugar is linked ester-wise to a retinoic acid derivative can be used as medicaments (Column 1, summary of invention).

State of the Art References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bosslet et al. (U.S. Patent 5,955,100 and 5,621,002)- discloses the glycosyl-spacer-drugs compounds.

Curley, Jr. et al. (U.S. Patent 5,663,377)- discloses the C-glycoside analogues of N-(4-hydroxyphenyl) retinamide-O-glucuronide.

Giovanoni (U.S. Patent 5,037,655)- discloses the therapeutic activity of retinoic acid.

Any inquiry concerning this communication or earlier communications from the

Examiner should be directed to Devesh Khare whose telephone number is (703)605-

1199. The examiner can normally be reached on Monday to Friday from 8:00 to 4:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson, Supervisory Patent Examiner, Art Unit 1623 can be reached at 703-308-4624. The official fax phone numbers for the organization where this application or proceeding is assigned is (703) 308-4556 or 308-4242.
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

JAMES O. WILSON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600

Devesh Khare, Ph.D.,JD(3Y).
Art Unit 1623
January 20,2003